

ABSTRACT

An actuator 1 in which a displacement element 7 has a piezoelectric ceramic layer 4 and a pair of electrodes 5, 6 interposing therebetween the piezoelectric ceramic layer 4. The entire thickness of the actuator 1 is $100\mu\text{m}$ or less. The piezoelectric ceramic layer 4 and the substrate 2 have as their principal component a perovskite crystal containing at least Pb, Zr and Ti, and, the maximum difference in a composition ratio $\text{Pb}/(\text{Ti}+\text{Zr})$ between the surface of the piezoelectric ceramic layer 4 and the inside of the substrate 2 is 0.02 or less. This reduces characteristic variation.